## Description of the Larvae of *Coenonympha haydeni* Edwards (Lepidoptera: Satyrinae)

The satyrine genus *Coenonympha* is represented in North America by two species complexes; one contains only *C. haydeni*, a primitive species without any close relatives, and the other, *C. tullia* contains six subspecies: *C. tullia california, C. tullia ampelos, C. tullia kodiak, C. tullia ochracea, C. tullia inornata* and *C. tullia nipisiquit* (Davenport, 1941, Bull. Mus. Comp. Zoo. 87:213-350). Although the larvae of species in this genus are easily reared in the laboratory, nothing is known about the early stages of four out of the seven North American groups, and only brief descriptions exist for the other three subspecies (*C. tullia california*—Comstock, 1927, *Butterflies of California*; *C. tullia ampelos*—Edwards, 1887, *The butterflies of North America*; *C. tullia inornata*—Davenport (loc. cit.), and Brown, 1961, Can. Ent. 93:107-117). The purpose of this report is to describe the larval stages of *C. haydeni* (Edwards).

*C. haydeni* inhabits open valley meadows in the central Rocky Mountains, principally in Wyoming and Montana (Ferris and Brown, 1981, *Butterflies of the Rocky Mountain States*). The larvae described here were reared from eggs laid by females caught at Granite Creek, Gros Vente Range, Wyoming on 7 July 1982 by P. F. Brussard and P. R. Ehrlich. The larvae were raised on various species of grasses in the tribe Hordeae. Descriptions of the first instar are based on 12 larvae, and the older larval description is based on one surviving third instar specimen.

### First Instar

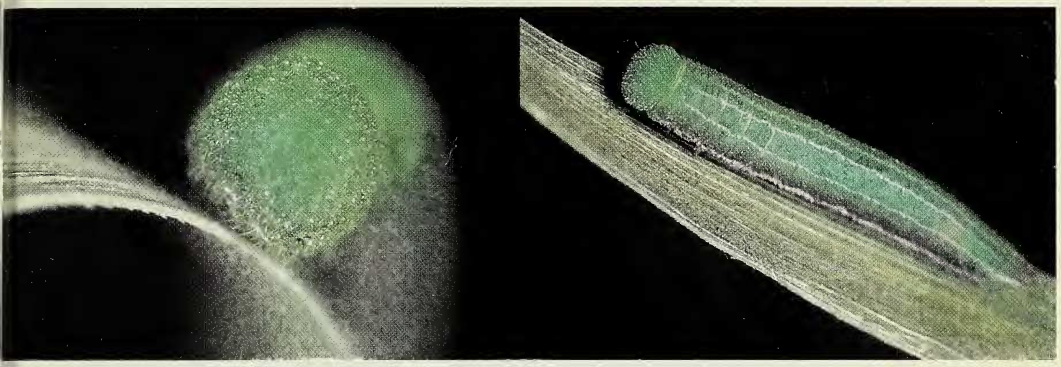
**Head** length 1.2 mm, width 0.7 mm; Lime green (8/6 on Munsell's (1929, *Munsell Book of Color*) color scale); hypognathous; six ocelli, third ocellus much larger than others; white tubercles distributed over most of the head. **Body** length 1.1 mm, width 0.5 mm; green-yellow green (7/6 on Munsell's color scale); five brown dorsal stripes from segments 4 to 11 with white bands (0.2 mm wide) bordering each stripe; all prolegs present; anal prolegs 0.55 mm long; anal plate bifurcate and reddish brown; crochets form a uniserial mesoseries; five white tubercles per abdominal segment.

### Mature larva (third instar)

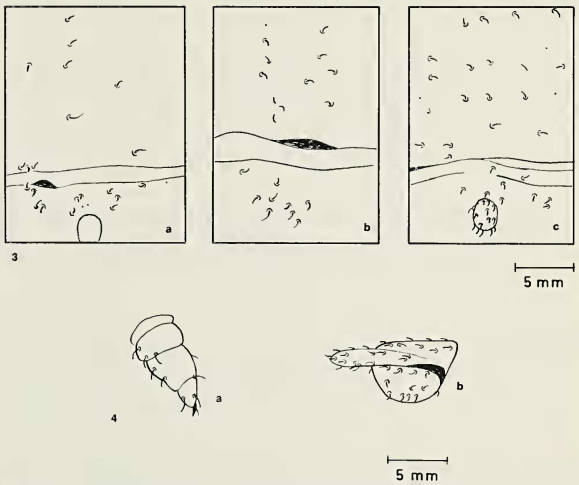
**Head** length 1.4 mm, width 0.9 mm; green yellow (5/8 on Munsell's color scale); see Figure 1. **Body** length 7.2 mm, width 1.2 mm, green yellow (6/4 on Munsell's color scale), a lighter shade of green than head; anal plate with superanal spines reddish purple; three dorsal white stripes; two lateral white stripes, each bordered by a narrow band of purple-pink color (Fig. 2); crochets a uniordinal, uniserial mesoseries.

As with most butterfly larvae in later instars, primary setae are not distinguishable from the numerous secondary setae (see Figures 3a-c and 4a-b for distribution of setae). Note that setae are less dense on segment five than on segment 6 (Figs. 3b-c).

The larval stages of *C. haydeni* resemble those of other *Coenonympha* previously reported (loc. cit). They are typical of satyrids, having longitudinal stripes, bifid caudal appendages, and body and head covered with setae. Considering that they are abundant and easily reared, it is surprising that so few data exist on the early



Figs. 1-2. Larva of *C. haydeni*. **1,** frontal view of head of third instar; **2,** lateral view of third instar.




Figs. 3a-c, 4a-b. Distribution of setae of third instar larva of *C. haydeni*. **3a,** ventral view of segment 1; **3b,** ventral view of segment 5; **3c,** ventral view of segment 6; **4a,** lateral view of proleg 1; **4b,** lateral view of segment 11.

stages of these insects. Much more work needs to be done on all *Coenonympha* life histories.

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